Fact Sheet on CWA Section 106 Monitoring Initiative

Why Was an Increase in CWA Section 106 Funds Directed into a Monitoring Initiative?

The Government Accountability Office, National Academy of Sciences, and other organizations have issued critiques saying that the nation and the states do not have all the monitoring data needed to support the full range of water programs, make statistically-valid statements about the condition of waters across the nation, and track changes over time. In response to these critiques and in recognition of the significant funding gap identified by the Clean Water Act section 106 workload model, EPA developed the Monitoring Initiative budget request. The objectives of the Monitoring Initiative are two-fold: 1) enhancing monitoring programs through development and implementation of state monitoring strategies; and 2) a state-EPA partnership to survey the nation's waters (the National Aquatic Resource Surveys).

EPA's traditional monitoring and assessment approaches are limited in their ability to describe status and trends throughout the nation and identify widespread concerns. Using a site-specific, targeted monitoring approach, states have monitored only a small percentage of all the nation's waters: approximately 20% of streams and rivers, 40% of lakes, and 35% of estuarine waters. While the targeted design is appropriate for managing specific waters of concern, the results cannot be extrapolated to represent conditions in state waters as a whole. In addition, state water quality standards and data interpretation methods vary. EPA cannot aggregate the state assessments into national-scale assessments of the condition of the Nation's waters. This requires increased collaboration on evaluating methods comparability and focusing on core indicators that can be applied consistently throughout the country. Increasingly states are adding statistically-based surveys to their monitoring programs to assess the condition of all waters using a representative sample.

Statistical surveys are a cost-effective means of assessing all waters as called for under CWA section 305(b). They use an unbiased, representative sample of the resource to represent the whole, and are a statistically-valid, defensible tool for evaluating status and trends and for measuring effectiveness of state water quality management efforts in protecting and restoring waters of the state. There is widespread acceptance of the use of statistical surveys in reports on the Nation's housing, labor, health, agriculture, and other sectors. Survey results can be used to support priority setting to address widespread problems with significant impact on the condition of waters. A limitation of surveys is they can only be used to characterize conditions at the scale they are implemented. State-scale surveys do not provide sufficient data to develop a total maximum daily load (TMDL) or fully characterize an individual assessment unit, unless they are designed to do so. It is the cost-effective combination of survey designs and targeted monitoring that support the full range of CWA programs.

Beginning in Fiscal Year 2005 the Administration requested and Congress appropriated $18.5 million in new funds within CWA section 106 grants for a Monitoring Initiative to enhance state monitoring programs and provide statistically-valid reports on water conditions.

What is the Current Allocation of Section 106 Monitoring Initiative Funds?
On March 29, 2006, EPA published in the *Federal Register* "Guidelines for the Award of Monitoring Initiative Funds under section 106 Grants to states, interstate agencies, and tribes," which set out eligibility requirements and the allocation of the Monitoring Initiative funds:

--$8.4M for state/tribal participation in national surveys, and
--$9.8M for enhancements to state monitoring programs. (Actual funding amounts are dependent upon EPA's final annual budget targeted for the Monitoring Initiative.)

All states have developed Monitoring Strategies that plan enhancements to their monitoring programs through 2014. Most states are focusing on the following areas:

- Managing data systems to store and share data,
- Increasing technical capabilities for assessing biological condition of waters,
- Upgrading laboratories and analytical expertise,
- Supporting development of nutrient criteria, and/or
- Adopting statistical survey design as a component of their monitoring network.

All states are participating in the national/regional-scale surveys. This collaboration is a fundamental step in building state capacity to implement state-scale surveys. The national survey provides states the opportunity to become familiar with the technical and logistical aspects of survey implementation including: randomized design, core indicators, field and laboratory protocols, data analysis and interpretation.

What are the Revisions to the Allocation of Monitoring Initiative Funds?
To accelerate the use of state-scale statistical surveys as called for in the President's budget, EPA is revising the March 2006 guidelines to incorporate a performance-based standard in the allotment of the section 106 Monitoring Initiative funds.

Monitoring Initiative funds will continue to be used for building state monitoring program capacity. However, for the subset of states that are not implementing state-scale surveys, five states each year will have to adopt state-scale statistically-valid surveys as part of their state monitoring programs. During FY 2007, 30 states were implementing, as part of their monitoring network, statistical surveys at the state-scale for at least one water resource. This number serves as the baseline for the performance-based standard.

If this goal is not achieved, a portion of the monitoring capacity building funds of those states not implementing state-scale surveys will be reduced beginning with the allotment of FY 2009 Monitoring Initiative funds. For every state below the target of five additional states each year *(i.e.*, 35 states in 2008, 40 in 2009, 45 in 2010, and 50 in 2011), 20% of the Monitoring Initiative funds used for building monitoring capacity (100% equals $169,900 per state) will be reallocated among those states implementing state-scale statistical surveys.

- For example, if only three additional states adopt the use of statistical surveys by the end of FY 2008 (for a total of 33 states, two states short of the goal of five additional states), 40% of the capacity building funds (i.e., $67,960 per state[1]) of the 17 states not implementing statistical surveys will be evenly reallocated in FY

[1] These amounts assume the same level of funding as specified in Section IIIA1 of the Monitoring Initiative Guidelines.

2009 to the 33 states that are implementing such surveys (i.e., $35,009 per state*).

What are the Criteria for Determining if a State is including Statistical Surveys as a Component of its Monitoring Program?

At the end of each fiscal year beginning in FY 2008, a state must submit a certification to EPA that the state is implementing a state-scale statistically-valid survey meeting the criteria set out below. EPA, through Headquarters' and Regional Monitoring Coordinators' consultation, will make a determination on the status of state implementation of state-scale statistical surveys based on the state's certification and adherence to the following criteria:

a. State is implementing a statistical survey design that provides condition estimates for a population of waters (*e.g.*, streams, rivers, lakes, coastal waters, wetlands) of the state based on an unbiased, representative sample of a subset of those waters.

i. The state assesses water quality conditions using core indicators for at least one designated use consistent with the *Elements of a State Water Monitoring and Assessment Program* guidance. Over time, state surveys incorporate a full suite of appropriate biological, chemical and physical indicators as described in the guidance. Initial statistically-valid, probability surveys (through 2012), however, may be based on a subset of indicators tailored to specific water quality issues (*e.g.*, biological integrity, recreation, fish consumption, *etc*.).

ii. The implementation of a state-scale statistically-valid survey may span several years. A state may use a rotating basin approach and survey different watersheds over time, or spread the sites required across the state over multiple years -- as long as these surveys can be aggregated for a state-scale survey. For example, a state may choose to sample ten sites each year over a five year period.

iii. States may use methods and protocols employed in the national surveys, or state methods.

iv. State surveys aim to achieve 90% confidence +/- 10%. This typically requires about fifty sites.

v. Surveys assess at least one water type (streams, lakes, rivers, coastal waters or wetlands).

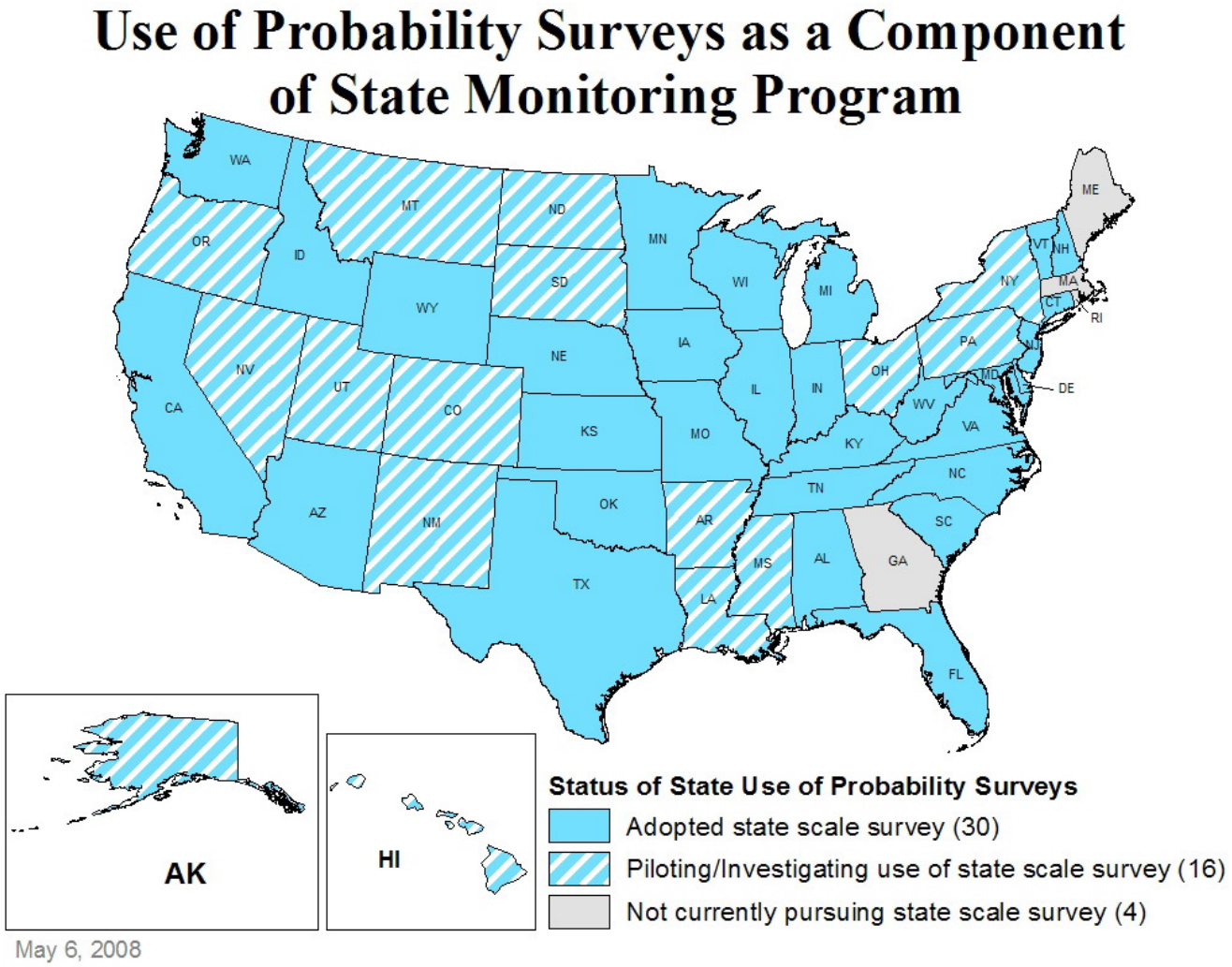
vi. A state's monitoring strategy indicates a commitment to continuing statewide statistical surveys as a component of their comprehensive monitoring program.

b. State continues to participate in the national/regional scale surveys, unless the state-scale survey is fully consistent with national survey design and methods.

c. State reports the results of the state-scale survey by 2012, preferably as a component of the state's Integrated Report/305b/303d (narrative form) and/or in the probability survey module of the Assessment Database. (EPA will modify this module to accommodate state assessment categories, *e.g.*, good/fair/poor, biocondition gradient levels, *etc.).*

(Note: EPA acknowledges that because of the unique nature of its land and waters, the State of Alaska may take longer to meet the above criteria.)

What is the Status of State Statistical Surveys?
Because of significant state participation, Regional efforts and technical assistance from Office of Research and Development, states are making steady progress in adopting state-scale statistical surveys as part of their monitoring programs voluntarily without the performance-based incentive. The map below shows the status of state adoption.



What is the relevance of Statistically-Valid Surveys to other EPA Efforts?
EPA believes it is critical to have scientifically-valid information on the quality of the nation's waters, and is therefore committed to supporting statistically-based probability surveys. The Council on Environmental Quality's recent announcement of an initiative to develop National Environmental Status and Trend (NEST) indicators is a further example of the national commitment to gathering scientifically-valid environmental information. The first pilot under NEST will focus on water issues. Experience gained through the state-EPA collaboration on the National Aquatic Resource Surveys will help inform this effort.